



CALS TEST NETWORK

AFCTN Test Report 94-026

AFCTB-ID
93-088



Technical Publication Transfer

Using:



Texas Instruments' Data



MIL-M-28001A (SGML)



Quick Short Test Report



11 September 1993

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11 September 1993

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1. Introduction

1.1 Background

The Department of Defense (DoD) Air Force Continuous Acquisition and Life-Cycle Support (CALS) Test Network (AFCTN) is conducting tests of the military standard for the Automated Interchange of Technical Information, MIL-STD-1840A, and its companion suite of military specifications. The AFCTN is a DoD sponsored confederation of voluntary participants from industry and government managed by the Electronic Systems Center (ESC).

The primary objective of the AFCTN is to evaluate the effectiveness of the CALS standards for technical data interchange and to demonstrate the technical capabilities and operational suitability of those standards. Two general categories of tests are performed to evaluate the standards; formal and informal.

Formal tests are large and comprehensive, which follow a written test plan, require specific authorization from the DoD, and may take months to prepare, execute, and report.

Informal tests are quick and short, used by the AFCTN technical staff, to broaden the testing base. They include representative samples of the many systems and applications used by AFCTN participants. They also allow the AFCTN staff to gain feedback from many industry and government interpretations of the standards, to increase the base of participation in the CALS initiative, and respond to the many requests for help that come from participants. Participants take part voluntarily, benefit by receiving an evaluation of their latest implementation (interpretation) of the standards, interact with the AFCTN technical staff, gain experience using the standards, and develop increased confidence in them. The results of informal tests are reported in Quick Short Test Reports (QSTRs) that briefly summarize the standard(s) tested, the hardware and software used, the nature of the test, and the results.

1.2 Purpose

The purpose of the informal test, reported in this QSTR, was to analyze Texas Instruments' interpretation and use of the CALS standards, in transferring technical publications data. Texas Instruments used its CALS Technical Data Interchange System to produce data, in accordance with the standards, and delivered it to the AFCTN technical staff on a 9-track magnetic tape.

2. Test Parameters

Test Plan: AFCTB 93-088

**Date of
Evaluation:** 11 September 1993

Evaluator: George Elwood
Air Force CALS Test Bed
DET 2 HQ ESC/AV-2P
4027 Colonel Glenn Hwy
Suite 300
Dayton OH 45431-1672

**Data
Originator:** Suzanne Guillory
Texas Instruments
M/S 8030
2501 West University
McKinney TX 75070

**Data
Description:** Technical Manual Test
1 Document Declaration file
1 Document Type Definition (DTD)
1 Text/Standard Generalized Markup Language
(SGML) file
1 Format Output Specification Instance (FOSI)

**Data
Source System:**

1840

HARDWARE

Unknown

SOFTWARE

Unknown

Text/SGML

HARDWARE

Unknown

SOFTWARE

Unknown

Evaluation Tools Used:

MIL-STD-1840A (TAPE)

SUN 3/280

AFCTN Tapetool v1.2.10 UNIX

XSoft CAPS/CALS v40.4

MIL-M-28001 (SGML)

SUN SparcStation 2

ArborText ADEPT v4.2.1

PC 486/50

Exoterica XGMLNormalizer v1.2e3.2

Exoterica Validator v2.0 ex1

SoftQuad Author/Editor v2.1

McAfee & McAdam Sema Mark-it v2.3

Public Domain sgmls

Standards

Tested:

MIL-STD-1840A

MIL-M-28001A

3. 1840A Analysis

3.1 External Packaging

The tape arrived at the Air Force CALS Test Bed (AFCTB) enclosed in a commercial overnight mailing envelop. The exterior of the envelop was not marked with a magnetic tape warning label, as required by MIL-STD-1840A, para. 5.3.1.3.

The tape was not enclosed in a barrier bag or barrier sheet material, as required by MIL-STD-1840A, para. 5.3.1.2. Inspection of the tape reel showed a lack of the label indicating the recording density, as required by MIL-STD-1840A, para. 5.3.1. Some 9-track tape units require this BPI to be set manually. A packing list, showing all files recorded on the tape, was not enclosed in the box.

3.2 Transmission Envelope

The 9-track tape received by the AFCTB contained MIL-STD-1840A files. The files were named per the standard conventions.

3.2.1 Tape Formats

The tape was run through the AFCTN *Tapetool* v1.2.10 utility. No errors were encountered while evaluating the contents of the tape labels.

The tape was read using XSoft's *CAPS read1840A* utility without any reported errors.

The physical structure of the tape meets the CALS MIL-STD-1840A requirements.

3.2.2 Declaration and Header Fields

No errors were found in the Document Declaration file and data file headers.

This portion of the tape meets the requirements of MIL-STD-1840A.

4. IGES Analysis

The tape contained no Initial Graphics Exchange Specification (IGES) files.

5. SGML Analysis

The AFCTB has several parsers available for evaluating submitted DTD and Text files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. These products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings unless specified in the report. Changes to DTD or Text files required by each system are not documented in the report.

The Text and DTD files from this document were evaluated using Exoterica's *Validator ex1* parser. No errors were reported in the DTD or Text files although some warning were issued.

The Text and DTD files from this document were tested using Exoterica's *XGMLNormalizer* parser with no reported errors.

The Text and DTD files from the tape were evaluated using McAfee & McAdam's *Sema Mark-it* parser with no reported errors.

The Text and DTD files from the tape were evaluated using the Public Domain *sgmls* parser with no reported errors.

The Text and DTD files from the tape were evaluated using SoftQuad's *Author/Editor* parser with no reported errors.

The Text file was imported into ArborText's Adept software and the DTD parsed without a reported error. Attempts to use the provided FOSI resulted in many reported errors. Efforts to use the generic FOSI provided by ArborText also generated an error.

The provided FOSI would not parse using available tools in the AFCTB. A comment provided in the FOSI indicated several areas that might not work.

The DTD and the Text files meet the CALS MIL-M-28001A specification.

6. Raster Analysis

The tape contained no Raster files.

7. CGM Analysis

The tape contained no Computer Graphics Metafile (CGM) files.

8. Conclusions and Recommendations

The physical structure and header file of the tape from Texas Instruments meets the CALS MIL-STD-1840A with no errors reported during any of the read operations.

The DTD and Text files were parsed using several different tools available in the AFCTB without a reported error. The provided FOSI would not parse and could not be used by the publishing system available within the AFCTB. The SGML file meets the CALS MIL-M-28001A specification.

The tape meets the CALS MIL-STD-1840A requirements.

9. Appendix A - Tapetool Report Logs

9.1 Tape Catalog

Air Force CALS Test Network Catalog Evaluation - Version 1.2; Release 10 (C)

Standards referenced:

MIL-STD-1840A (1987) - Automated Interchange of Technical Information

ANSI X3.27 (1987) - File Structure and Labeling of Magnetic Tapes
for Information Interchange

ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Thu Sep 9 16:43:38 1993

MIL-STD-1840A File Catalog

File Set Directory: /cals/u1210/Set016

Page:
1

File Name Extracted	File Type	Record Format/ Selected/ Length	Block Length/Total
D001 Extracted	Document Declaration	D/00260	02048/000001
D001H001 Extracted	Output Specification	D/00260	02048/000033
D001T002 Extracted	Text	D/00260	02048/000021
D001G003 Extracted	DTD	D/00260	02048/000028

Catalog Process terminated normally.

9.2 Tape Evaluation Log

Air Force CALS Test Network Tape Evaluation - Version 1.2; Release 10 (C)
Standards referenced:

ANSI X3.27 (1987) - File Structure and Labeling of Magnetic Tapes
for Information Interchange

ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Thu Sep 9 16:43:30 1993

ANSI Tape Import Log

Allocating tape drive /dev/rmt0...

/dev/rmt0 allocated.

VOL1CALS01

4

Label Identifier: VOL1
Volume Identifier: CALS01
Volume Accessibility:
Owner Identifier:
Label Standard Version: 4

HDR1D001 CALS0100010001000100 93245 00000 000000ILEAF VER 1.7

Label Identifier: HDR1
File Identifier: D001
File Set Identifier: CALS01
File Section Number: 0001
File Sequence Number: 0001
Generation Number: 0001
Generation Version Number: 00
Creation Date: 93245
Expiration Date: 00000
File Accessibility:
Block Count: 000000
Implementation Identifier: ILEAF VER 1.7

HDR2D0204800260

00

Label Identifier: HDR2
Recording Format: D
Block Length: 02048
Record Length: 00260

Offset Length: 00

***** Tape Mark *****

<<<<< PART OF LOG FILE REMOVED HERE >>>>>

***** Tape Mark *****

End of Volume CALS01

End Of Tape File Set

Deallocating /dev/rmt0...

Tape Import Process terminated normally.

9.3 Tape File Set Validation Log

Air Force CALS Test Network File Set Evaluation - Version 1.2; Release 10 (C)

Standards referenced:

MIL-STD-1840A (1987) - Automated Interchange of Technical Information

Thu Sep 9 16:43:38 1993

MIL-STD-1840A File Set Evaluation Log

File Set: Set016

Found file: D001

Extracting Document Declaration Header Records...

Evaluating Document Declaration Header Records...

srcsys: Interleaf Inc., Waltham, Ma.

srcdocid: TM 9-XXXX-XXX-12

srcrelid: TBD

chglvl: ORIGINAL

dteisu: 19931002

dstsys: MICOM-TBD

dstdocid: TM 9-XXXX-XX-12

dstrelid: TBD

dtetrm: 19930903

dlvacc: ITAS, DAAH01-93-C-0206, A059

filcnt: T1, G1, H1

ttlcls: Unclass

doccls: Unclass

doctyp: TECHNICAL MANUAL

docttl: OPERATOR MANUAL FOR TOW ITAS

Found file: D001H001

Extracting Output Specification Header Records...

Evaluating Output Specification Header Records...

srcdocid: TM 9-XXXX-XXX-12

dstdocid: TM 9-XXXX-XX-12

notes: NONE

Saving Output Specification Header File: D001H001_HDR

Saving Output Specification Data File: D001H001_OS

Found file: D001T002

Extracting Text Header Records...

Evaluating Text Header Records...

srcdocid: TM 9-XXXX-XXX-12
dstdocid: TM 9-XXXX-XX-12
txtfilid: W
doccls: Unclass
notes: 9/1/93

Saving Text Header File: D001T002_HDR
Saving Text Data File: D001T002_TXT

Found file: D001G003
Extracting DTD Header Records...
Evaluating DTD Header Records...

srcdocid: TM 9-XXXX-XXX-12
dstdocid: TM 9-XXXX-XX-12
notes: NONE

Saving DTD Header File: D001G003_HDR
Saving DTD Data File: D001G003_DTD

Evaluating numbering scheme...
No errors were encountered during numbering scheme evaluation.
Numbering scheme evaluation complete.

Checking file count...
No errors were encountered during file count verification.
File Count verification complete.

No errors were encountered in Document D001.

No errors were encountered in this File Set.

MIL-STD-1840A File Set Evaluation Complete.

10. Appendix B - Detailed SGML Analysis

10.1 ArbortText Parser Log

10.2 Parser Log

10.2.1 DTD Log File

SGML Document Type Definition Parser
An SGML System Conforming to
International Standard ISO 8879
Standard Generalized Markup Language

Log file: '9388.LOG'
SDO File: 'ctnddecl.sdo'
Namecase General is yes.
Namecase Entity is no.
Parsing DTD file: '9388.dtd'

DTD0096: The generic ID ARBTEXT has not been used in any content
model, inclusion, or as a doctype element.
DTD0096: The generic ID HRULE has not been used in any content
model, inclusion, or as a doctype element.
DTD0096: The generic ID SHORTTITLE has not been used in any content
model, inclusion, or as a doctype element.
DTD0096: The generic ID CONTASSURPG has not been used in any content
model, inclusion, or as a doctype element.
DTD0096: The generic ID REFDOC has not been used in any content
model, inclusion, or as a doctype element.
DTD0096: The generic ID CFGPGE has not been used in any content
model, inclusion, or as a doctype element.
DTD0096: The generic ID COVERINDEX has not been used in any content
model, inclusion, or as a doctype element.
DTD0096: The generic ID STALOC has not been used in any content
model, inclusion, or as a doctype element.
DTD0096: The generic ID TESTCODE has not been used in any content
model, inclusion, or as a doctype element.
This DTD conforms to the ISO 8879 standard

DTO file '9388.DTO' created

closing statistics:
Capacity points: 62296

Bytes of DTO file string space: 12249
SGML descriptor blocks: 6430

Document Type Definition is compliant and parsed normally.

Program status code: 0.

10.2.2 Text Log File

IPA0108: *** SGML Instance Parser Log File ***
Source Document File: '9388.txt'.
Job File: '9388.jbf'.
DTD File: ''.
SGML Declaration File: ''.

Reading File '9388.jbf', File Type 'JOB FILE'.

Concrete Syntax Settings In Effect For This Parse:

NAMECASE GENERAL: YES.
NAMECASE ENTITY: NO.
NAMELEN: 32.
SHORTTAG: YES.

Closed '9388.jbf', File Type 'JOB FILE'.

Reading File '9388.txt', File Type 'DIRECT INPUT FILE'.

--> Scanned Up To Line 100 In 9388.txt.
--> Scanned Up To Line 200 In 9388.txt.
--> Scanned Up To Line 300 In 9388.txt.
--> Scanned Up To Line 400 In 9388.txt.
--> Scanned Up To Line 500 In 9388.txt.
--> Scanned Up To Line 600 In 9388.txt.
--> Scanned Up To Line 700 In 9388.txt.

Closed '9388.txt', File Type 'DIRECT INPUT FILE'.

Document Parsed Successfully, No Errors or Warnings.

10.3 Exoterica Validator 2.1 Parser Log

```
<!-- **Warning** in "9388.sgm", line 1067:
  An element is not allowed in the document instance because it does not
  appear in any accessible content model or it is completely excluded.
  The element is "ARBTEXT".
-->
<!-- **Warning** in "9388.sgm", line 1067:
  An element is not allowed in the document instance because it does not
  appear in any accessible content model or it is completely excluded.
  The element is "CFGPGGE".
-->
<!-- **Warning** in "9388.sgm", line 1067:
  An element is not allowed in the document instance because it does not
  appear in any accessible content model or it is completely excluded.
  The element is "CONTASSURPG".
-->
<!-- **Warning** in "9388.sgm", line 1067:
  An element is not allowed in the document instance because it does not
  appear in any accessible content model or it is completely excluded.
  The element is "COVERINDEX".
-->
<!-- **Warning** in "9388.sgm", line 1067:
  An element is not allowed in the document instance because it does not
  appear in any accessible content model or it is completely excluded.
  The element is "HRULE".
-->
<!-- **Warning** in "9388.sgm", line 1067:
  An element is not allowed in the document instance because it does not
  appear in any accessible content model or it is completely excluded.
  The element is "REFDOC".
-->
<!-- **Warning** in "9388.sgm", line 1067:
  An element is not allowed in the document instance because it does not
  appear in any accessible content model or it is completely excluded.
  The element is "SHORTTITLE".
-->
<!-- **Warning** in "9388.sgm", line 1067:
  An element is not allowed in the document instance because it does not
  appear in any accessible content model or it is completely excluded.
  The element is "STALOC".
-->
<!-- **Warning** in "9388.sgm", line 1067:
  An element is not allowed in the document instance because it does not
  appear in any accessible content model or it is completely excluded.
  The element is "TESTCODE".
```

10.4 Public Domain sgmls Log

TOTALCAP 126596/200000
ENTCAP 11776/200000
ENTCHCAP 7158/200000
ELEMCA 5376/200000
GRPCAP 44512/200000
EXGRPCAP 416/200000
EXNMCA 832/200000
ATTCAP 38016/200000
ATTCHCAP 523/200000
AVGRPCAP 17504/200000
NOTCAP 96/200000
NOTCHCAP 163/200000
IDCAP 224/200000